Practices of Strategic Management For Romania's Small and Medium Enterprises in The Digital Age

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Abstract

The article discusses the strategic management of SMEs within the digital era's context, focusing on helping these enterprises stay competitive in a rapidly changing global market, influenced by digital innovation. It underscores the importance of adopting new strategic thinking methods to ensure SMEs' viability worldwide. The theoretical segment reviews existing knowledge, citing strategies and strategic management within the digital era's dynamics. The research gathers critical information on the business environment shaped by digital advancements, necessary for understanding emerging trends, technologies, and global market shifts. The study pinpoints new challenges faced by SMEs and offers insights and solutions for these issues. A significant contribution of this research in strategic management for SMEs during the digital age is the creation and refinement of new strategic thinking models and techniques. This innovative research provides conceptual frameworks and practical tools tailored to meet the unique challenges of the digital landscape.

Key words: economy, SMEs, management, digital technologies
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1. Introduction

Strategic management is an ongoing process that involves evaluating and overseeing both the company and its activities, as well as assessing competitors to set goals and strategies to outperform both current and future rivals. This strategy is then reassessed periodically, at the end of each quarter or year, to plan its implementation and make any necessary adjustments based on new developments in the economic, social, financial, or political landscapes. In the digital era, new business models are emerging as SMEs address critical questions about customer identity, values, and how to deliver value efficiently. Key elements of information and communication technology such as mobile internet, the automation of knowledge work, the internet of things, and cloud computing are poised to significantly transform businesses and the global economy.The evolution of the internet, known as the "World Wide Web" in practice and literature, progresses through stages labeled as Web 1.0, Web 2.0, Web 3.0, and recently, Web 4.0, highlighting its transformative impact.

Despite recognizing digital technology as a transformative force, Romanian SMEs generally lack long-term strategic planning. Here, the political-legislative environment notably drives the need for strategy reevaluation and adaptation. Investments in network infrastructure and digital services are encouraged, with public-private partnerships playing a crucial role in promoting the rapid growth of the global digital economy. Evaluating managerial practices within Small and Medium-sized Enterprises (SMEs) is a complex endeavor fraught with several unique challenges that underscore the diverse nature of this business sector. One of the primary difficulties lies in the application of general management practices across varied business contexts. SMEs operate in a wide array of

industries, each with its own set of regulatory, market, and technological conditions. This diversity makes it hard to establish a one-size-fits-all approach to management that is equally effective across all SMEs. What works for a technology start-up in an urban setting might not be suitable for a small family-owned manufacturing plant in a rural area.

Moreover, the structure and scale of SMEs significantly influence the applicability of formal management procedures. These procedures, which are often designed with larger organizations in mind, typically require resources—both in terms of human capital and financial investment—that smaller businesses might not possess. For instance, rigorous data analysis and formal reporting structures that are standard in larger firms can be overly burdensome for a small enterprise, where many roles may be fulfilled by a single person.

2. Literature review

Numerous authors specializing in management have long been fascinated by the concept of strategy. The term "strategy" etymologically derives from the Greek words "stratos" (army), "strata" (array), and "argos" (leadership) (Betz, 2020). Although the concept of strategy has existed for over 2500 years, it only began to gain prominence in the 1960s, a period marked by economic recovery following two major global conflicts, during which business environments underwent significant changes, prompting organizations to adopt more strategic responses (Ebben and Johnson, 2005). This response to environmental shifts increasingly took on a strategic nature, with strategy becoming a core component of the economic system (Geofrey et al., 2014).

The academic literature on strategy and strategic management is diverse, reflecting a variety of perspectives shaped by different mentalities among specialists in the field. Strategic management was first formally recognized as a discipline in 1973 by Ansoff, and its approaches are notably diverse (Reves et al., 2012). It is viewed as a contemporary management form that anticipates environmental changes, assesses internal potential with minimal subjectivity, and dynamically manages changes necessitated by the need to align activities with the influence of both internal and external factors, ensuring the sustainability and viability of organizations.

Currently, strategic management is understood in various ways but generally involves a complex process that aids in implementing strategies to ensure the longevity of organizational initiatives, considering the interaction of structural and cultural factors; the ability to harmoniously coordinate both external and internal environmental elements to achieve organizational objectives; a modern management philosophy linking strategy with corporate initiatives; the setting of long-term performance goals through detailed action plans based on the intensity of environmental factors; and the development of strategies that help achieve organizational goals (Iansiti and Lakhani, 2014).

Despite the diverse conceptual approaches, there is a consensus that strategic management is an advanced form of management, anticipating environmental changes and non-subjectively evaluating internal capabilities to effectively manage necessary changes. It requires accurately identifying the organization's current and desired future position, analyzing and projecting the impact of various factors on organizational behavior within the technology-market framework, identifying stakeholder goals, and enhancing organizational capabilities to achieve all set objectives (Chesbrough, 2003).

SMEs, often seen as vital engines of economic growth, are defined variably worldwide but are primarily categorized based on employee numbers, business volume, total assets, and organizational independence. SMEs play crucial roles in the economy by creating jobs, fostering middle-class formation, enhancing market competition, supplying goods and services, utilizing local resources, providing economic resilience, serving as a foundation for future large enterprises, and prioritizing innovation in management and technology. They are highly adaptable to the socio-economic conditions of their respective regions (Baum and Locke, 2004).

The traditional coping strategies may no longer be effective in the future, and society must explore different scenarios to mitigate the disruptions and imbalances caused by the information technology era, now evolving into the digital age (Iansiti and Lakhani, 2014). The digital age brings profound changes affecting organizations directly or indirectly through competitive dynamics, customer behaviors, data usage, sources of innovation, and new business model creation (Edmondson, 2011).

Finally, the performance of organizations, reflecting strategic decisions and achieved performance levels, is partly influenced by organizational culture (Berglund and Sandström, 2013). Strategic management should consider forming alliances and cooperative efforts as alternative management forms, especially when organizations have histories of collaboration, whether related to risk or trust (Amit and Schoemaker, 1993).

3. Research methodology

The applied research was conducted from November 2023 to April 2024 and involved the following phases:

Stage 1: Two questionnaires were distributed via email, physical methods, and crowdsourcing. The objectives of this stage were to gain a thorough understanding of:

a) the variance in digital tool adoption between SMEs and larger enterprises;

b) how well Romanian SMEs have adapted to new strategic management concepts and advancements in digital technology.

Stage 2: This involved the descriptive and econometric analysis of the data collected from the responses to the questionnaires. The questionnaires aimed to deeply explore:

✓ the differences in the adoption rates of digital tools between SMEs and larger companies.

✓ the main challenges faced by organizations, particularly SMEs, in adopting digital technologies.

✓ the perceived benefits of digital technology adoption across organizations, with a focus on SMEs.

✓ the level of knowledge that decision-makers possess regarding digital implementation in organizations generally, and in SMEs specifically.

The methodology employed included proportional quotas for county-level distribution and a stratified-optimal model for allocation by sector. A total of 643 respondents completed the questionnaire, including 598 from micro, small, and medium-sized enterprises across Romania, segmented by industry sector such as information and communications, tourism, industry, construction, trade, transportation, and services, based on the stratified-optimal model. The analysis of the questionnaire responses involved several statistical and econometric techniques. Initially, descriptive statistics were used to identify the characteristics of the respondents and to compare different homogeneous groups. In the second phase of the analysis, for deriving statistical conclusions, tools like analysis of variance, correlation, and linear regression were utilized, employing ANOVA and SPSS for Windows 16.0 software.

4. Findings

The findings, which detailed the usage of fundamental ICT elements among Romanian SMEs categorized by size, were summarized in Table no1.

Table no 1. The use of the basic elements of ICT according to the size of SMEs in Romania

Using the basics of ICT	Microenterprises	Small businesses	Medium enterprises
Internet	70,81%	91,47%	89,39%
Computere (PC)	74,03%	87,60%	89,39%
E-mail	65,15%	82,95%	89,39%
The SME's own website	22,64%	50,39%	59,09%
Online sales/purchases	12,21%	24,03%	30,30%
Intranet	18,53%	1,55%	0,00%
We do NOT use any of the above	2,11%	6,98%	22,73%

Source: developed by the authors based on the collected data

The utilization of the internet among small and medium-sized enterprises (SMEs) in Romania is more prevalent compared to microbusinesses, as indicated by the data in Table no 1. Specifically, 91.47% of small businesses and 89.39% of medium-sized businesses use the internet, compared to 70.81% for microbusinesses. Similarly, the ownership of computers is higher in small (87.6%) and medium-sized businesses (89.39%) than in microbusinesses (74.03%). The use of email follows a

similar trend, with 82.95% for small businesses and 89.39% for medium-sized businesses, significantly higher than the 65.15% observed in microbusinesses. Furthermore, having their own website is more common among small (50.39%) and medium-sized businesses (59.09%) than among microbusinesses, where only 22.64% have a website. Online commerce (both sales and purchases) also shows higher percentages among small (24.03%) and medium-sized businesses (30.3%), compared to just 12.21% for microbusinesses. Interestingly, micro-enterprises show a distinct advantage in the use of intranet, with 18.53% utilizing this technology compared to a mere 1.55% in small businesses and none in medium-sized businesses. However, a concerning finding is that 22.73% of medium-sized businesses do not use any modern technological tools, a stark contrast to 6.98% of small enterprises and only 2.11% of micro-enterprises. This lack of technology adoption could potentially have a deeply unfavorable impact on the operations of medium-sized enterprises.

Additionally, the national-level use of basic ICT elements across different sectors of activity for SMEs in Romania is detailed in Table 2.

Table no. 2. The use of the basic elements of ICT according to the branch of activity of SMEs in Romania

Using the basics of ICT	Industry	Construction	Trade	Transport	Tourism	Services
Internet	79,25%	79,12%	66,22%	76,74%	96,67%	76,51%
Computere (PC)	82,57%	76,92%	69,68%	79,07%	93,33%	78,10%
E-mail	73,44%	79,12%	61,97%	72,09%	83,33%	68,25%
The SME's own website	35,27%	21,98%	22,34%	27,91%	53,33%	28,89%
Online sales/purchases	17,01%	15,38%	10,90%	11,63%	36,67%	15,56%
Intranet	11,62%	7,69%	23,40%	11,63%	3,33%	12,70%
We do NOT use any of the above	2,11%	2,20%	1,60%	9,30%	6,67%	4,44%

Source: developed by the authors based on the collected data

The insights derived from the data in Table no 2 allow us to draw the following conclusions:

- High Utilization in Tourism, Hospitality, and Leisure: SMEs in the tourism sector lead in digital adoption, with notable percentages in internet usage (96.67%), which is significantly higher compared to industries such as manufacturing (79.25%), construction (79.12%), transport (76.74%), and services (76.51%). Similarly, computer usage in tourism is highest at 93.33%, compared with 82.57% in industry, 79.07% in transport, 78.1% in services, and 76.92% in construction. Email usage and the presence of an organization's own website also show the highest figures in the tourism sector, 83.33% and 53.33% respectively, far surpassing other sectors such as industry, services, commerce, and construction.

- Online Sales/Purchases: While digital technology is pervasive, online sales and purchases represent a smaller fraction of digital usage across all sectors. Tourism again shows the highest adoption with 36.67%, followed by industry (17.01%), services (15.56%), construction (15.38%), and trade (10.9%), the latter surprisingly low given the sector's nature.

- Perceived Uselessness of Digital Tools: There are still perceptions of digital tools being unnecessary within certain sectors. For instance, 1.6% of SMEs in trade, 2.11% in industry, 2.2% in construction, 4.44% in services, and 6.67% in tourism view digital tools as nonessential. Transport SMEs exhibit the highest rate of perceived uselessness at 9.3%.

Finally, to further elucidate the impact of digital adoption, we analyzed the correlation between the intensity of digital usage and the performance of Romanian SMEs, as depicted in Table no 3. This analysis aims to understand better how digital integration influences operational success across different sectors.

Table no 3. Correlation between the intensity of use of the basic elements of ICT and the performances of SMEs

Using the basics of ICT	Much better	Better	Identical	Weaker	Much weaker
Internet	85,19%	79,83%	76,13%	71,23%	45,31%
Computere (PC)	92,59%	77,25%	78,30%	74,89%	57,81%
E-mail	92,59%	75,11%	68,35%	70,78%	31,25%
The SME's own website	37,04%	35,19%	27,31%	26,48%	10,94%
Online sales/purchases	29,63%	21,03%	13,38%	12,33%	4,69%
Intranet	0,00%	8,15%	13,56%	23,29%	37,50%
We do NOT use any of the above	7,41%	6,44%	3,07%	3,65%	1,58%

Source: developed by the authors based on the collected data

Based on the synthesized data in Table 3, we drew the following conclusions:

- General Usage Patterns: A significant proportion of SMEs report using digital tools extensively: 78.3% utilize computers, 76.13% access the Internet, 68.35% use email, 27.31% have their own website, and just over 13% use intranets and engage in online commerce (13.56% and 13.38%, respectively). This data indicates a substantial engagement with digital technologies, though the relatively low figures for websites and online commerce suggest some areas still face challenges in digital adoption.

- Effectiveness of Digital Tools: Despite varying degrees of usage, the impact of digital tools on SME performance is generally positive, except for intranets where no significant improvement was reported (0% reported "much better results"). High percentages of respondents reported considerable improvements due to the use of computers and email (92.59%), the Internet (85.19%), and the organization's own website (37.04%), indicating that these tools are effective in enhancing business operations.

- Analytical Approach: To ascertain the causal relationships between organizational strategy and external environmental assessment, tools such as SPSS for Windows 16.0 and ANOVA were employed. Regression analysis was used to explore the potential link between the frequency of strategy reevaluation and adaptation and the frequency of evaluating the external environment.

- Variables for Analysis: Eight independent variables were established for the analysis, focusing on the frequency of evaluation in various domains:
  1. Competitors
  2. Customers
  3. Suppliers
  4. Workforce
  5. Political-legislative environment
  6. Economic environment
  7. Socio-cultural environment
  8. Technological environment

- Outcome of Analysis: The independent variable was the frequency of strategy adaptation and reevaluation at the organizational level. The results of this regression analysis are detailed in subsequent tables (Tables 4, 5, and 6), showing how each variable interacts with strategic management practices and influences organizational outcomes.

This comprehensive approach underscores the interplay between digital tool utilization and strategic management, highlighting the critical role of consistent environmental evaluation in shaping effective business strategies for SMEs.

Table no 4. Summary of the model b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.218[a]	.047	.028	1.032	.047	2.465	9	445	.009	1.993

a. the independent (constant) variables are considered the frequencies with which they are evaluated: the technological environment;
workforce; customers; socio-cultural environment; suppliers; competitors; the economic environment; the international environment;
the political-legislative environment
b. Dependent variable: the frequency of re-evaluation and adaptation of the organizational strategy

Source: developed by the authors based on the collected data

Table no 5. ANOVA[a]

Model 1	Sum of Squares	df	Mean Square	F	Sig.
Regression	23.619	9	2.624	2.465	.009[b]
Residual	473.687	445	1.064		
Total	497.305	454			

a. Dependent variable: the frequency of re-evaluation and adaptation of the organizational strategy;
b. the independent (constant) variables are considered the frequencies with which they are evaluated: the technological environment;
workforce; customers; socio-cultural environment; suppliers; competitors; the economic environment; the international environment; the political-legislative environment

Source: developed by the authors based on the collected data

Table no 6. Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
	B	Std. Error	Beta			Zero order	Partial	Part
(Constant)	1.965	.131		15.019	.000			
Evaluation of the competition	-.092	.067	-.081	-1.365	.173	.007	-.065	-.063
Evaluation of clients and consumers	-.032	.078	-.024	-.409	.683	.041	-.019	-.019
Evaluation of suppliers	.121	064	.104	1.883	.060	.104	.089	.087
Evaluation of the labor force	-005	.057	.000	.001	999	.070	.000	.000
Evaluation of the political-legal environment	.171	.052	.222	3.288	.001	.159	.154	.152
Evaluation of the economic environment	-.103	.067	-.099	-1.526	.128	.051	-.072	-.071
Assessment of the technological environment	.105	.062	.097	1.678	.094	.107	.079	.078

Source: developed by the authors based on the collected data

The regression analysis summarized in Tables no 4, no 5, and no 6 demonstrates a statistically significant relationship between the set of predictive indicators and the criterion variable, with an F-value of 2.565 and a p-value less than 0.05. The coefficient of determination (R^2) is 4.7%, indicating that the predictive indicators account for 4.7% of the variance in the criterion variable. The multiple correlation coefficient (R) is 0.218, suggesting a low intensity of correlation between how frequently Romanian SMEs evaluate their external environment and how often they adapt and reevaluate their organizational strategies. Notably, the evaluation frequency of the political-legislative environment stands out among the predictor variables, showing a significant statistical contribution. With a Beta value of 0.222 and a p-value less than 0.05, this variable alone accounts for 2.3% of the variance in the frequency of strategy adaptation and reevaluation. This analysis indicates that Romanian SMEs that conduct more frequent evaluations of the business environment, particularly the political-legislative aspects, tend to revise and adapt their strategies more often. This suggests a strong link between external environment awareness and strategic responsiveness, emphasizing the importance of staying attuned to changes in the political and legislative landscape for effective strategic management.

5. Conclusions

The SME sector, recognized as a primary job creator locally, regionally, and globally, has grown in importance not only in Romania but across Europe and the world, significantly influencing the rise in gross domestic product (GDP). Moreover, SMEs are crucial to the sustained increase in exports and national investment levels, thereby fostering economic and social growth, contributing to the sustainable development of their operating regions. Regardless of the economic approach—whether general or specific, or the complexity of the indicators used (unidimensional or multidimensional)—SMEs consistently exert positive effects on the overall economic system's functionality. Managerial practices within SMEs serve as a vital link between management and administrative capabilities, performance levels, and overall growth. Despite the established correlation between the frequent evaluation of external organizational environment elements and the reevaluation and adaptation of strategies, the most impactful predictor, as perceived by respondents, relates to the evaluation of the highly unpredictable political-legislative environment. In this light, it appears that Romanian SMEs adjust or formulate their strategies primarily in response to changes in regulatory requirements.

In Romania, the predominant sector for SMEs is commerce, with about 42% of Romanian SMEs engaged in trade, significantly above the EU average of 30%. This is a positive indication of the sectoral structure in the context of new policies aimed at revitalizing the industry at the European level. Moreover, Romania has a higher proportion of SMEs in the manufacturing industry than the EU average—11.9% compared to 9.6%, placing Romania among the few European countries that have surpassed pre-crisis industrial production levels. Notably, it ranks second in Europe, after the Czech Republic, in the industrial sector's contribution to creating added value.

There are approximately 51,000 active SMEs in Romania, making up 9% of all SMEs in the country, and they contribute 24.5% of the national added value. However, the business climate shows signs of instability, reflected by a decline in new entrepreneurial initiatives and the exit of some economic agents from the Romanian market.

6. References

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